ATTACHMENT C
Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-25. (Canceled)

26. (Previously Presented) An insertion instrument for a three piece intervertebral implant of the type that includes an upper part which can be placed against a vertebra, a lower part that can be placed against an adjacent vertebrae and a pivot element that can be inserted between the upper and lower parts, the instrument having two arms disposed adjacent each other and supported pivotally relative to one another at one end, each arm including at its free end opposite said one end a retention device for the upper part and the lower part, respectively, and including a longitudinal guide structure for the pivot element disposed in one of said arms.

27. (Previously Presented) An instrument according to claim 26, wherein the longitudinal guide structure includes grooves and the pivot element includes lateral edges which engage said grooves.

28. (Previously Presented) An instrument according to claim 27, wherein the grooves of the longitudinal guide structure face each other for receiving the pivot element for movement in the longitudinal direction of that arm.

29. (Previously Presented) An instrument according to claim 26, wherein the arm having the longitudinal guide structure comprises two legs disposed parallel to and spaced apart from one another, the space between the legs forming a receiving chamber in which the pivot element is guided longitudinally along said arm.

30. (Previously Presented) An instrument according to claim 26, wherein the longitudinal guide structure includes, near its end adjacent to the pivotal support of the arms, an insertion region whereat the pivot element can be inserted onto the longitudinal guide structure.

31. (Previously Presented) An instrument according to claim 26, wherein the longitudinal guide structure includes grooves and wherein the lower part includes grooves which are aligned with the grooves on the longitudinal guide structure when that lower part is mounted on the free end of that arm, and wherein the grooves on the longitudinal guide structure and the grooves on the lower part are aligned with each other such that lateral edges of a pivot element can move directly from the grooves on the longitudinal guide structure into the grooves on the lower part.

32. (Previously Presented) An instrument according to claim 26, including a pusher which is mounted on and slidable along the longitudinal guide structure for pushing the pivot element, and including an elongated rod extending from said pusher towards the pivotally supported ends of the arms.

33. (Previously Presented) An instrument according to claim 26, wherein the two arms are disposed adjacent each other at their free ends and constructed such that the retention device on one of the arms is positioned adjacent to the retention device on the other arm.

34. (Previously Presented) An instrument according to claim 26, wherein the two arms, at their pivotally supported ends, are spaced from one another such that the arms, in the insertion position in which the free ends of the arms are in their closest proximity to one another have a greater spacing from one another at their pivotally supported ends than at their free ends.

35. (Previously Presented) An instrument according to claim 34, including a spreader element which is mounted on the arms for movement along the arms in the direction toward the free ends of the arms to move the two arms about their pivotal support away from each other.

36. (Previously Presented) An instrument according to claim 35, wherein at least one of the two arms has a structure for receiving the spreader element, and including an elongated feed rod connected to the spreader element.

37. (Previously Presented) An instrument according to claim 36, wherein the feed rod includes a rack which meshes with a driving gear wheel in the region of the pivotal support of the arms.

38. (Previously Presented) An instrument according to claim 26, wherein the retention devices are pins which engage bores in the upper and lower parts, respectively.

39. (Previously Presented) An instrument according to claim 26, wherein the retention device on at least one of the arms is rotatable about an axis that is located in the region of the free end of that arm and which extends parallel to the pivot axis at the pivotal support of that arm, and wherein the retention device, after being pivoted about this axis, can be locked in different angular positions.

40. (Previously Presented) An instrument according to claim 39, including a fixation pin insertable into bores in that arm for locking the retention device at different angular positions.

41. (Previously Presented) An instrument according to claim 26, wherein at least one of the retention devices has a releasable locking means for releasably locking its implant part thereon.

42. (Previously Presented) An instrument according to claim 41, wherein locking of the releasable locking means is effected by rotating a locking bar about an axis of rotation, which axis extends substantially parallel to the longitudinal axis of the arm on which the retention device is mounted.

43. (Previously Presented) An instrument according to claim 42, wherein at least a portion of the arm carrying the retention device is rotatable about its longitudinal axis to rotate the locking bar, such that in one position the locking bar of the arm locks the connected implant part and in another angular position of the arm, releases the connected implant.

44. (Previously Presented) An instrument according to claim 43, wherein the retention device has a pin which engages a receiving bore on the connected implant part and the locking bar protrudes laterally from this pin to engage or disengage a notch on the connected implant part to lock or release it, respectively.

45. (Previously Presented) An instrument according to claim 26, wherein the arm having the longitudinal guide structure comprises two parallel legs which form between them a receiving chamber for receiving the pivot element and wherein the other arm extends centrally between them so that its free end can dip between the parallel legs.

46. (Previously Presented) An instrument according to claim 45, including a spreader element disposed between the two arms and displaceable along them, said spreader element resting on the surface of the two legs and having a protrusion which extends down between the two legs into the receiving chamber and an indentation on its top for receiving the other arm.

47. (Previously Presented) An instrument according to claim 45, wherein the two parallel legs are rectangular in cross section, and the other arm is a rod of circular cross section.

48. (Previously Presented) An instrument according to claim 26, wherein a first of said arms comprises a pair of parallel legs and the second arm comprises a single rod located centrally between the two legs of the first arm, the two arms spaced apart at one end where they are pivotally supported, such that the other ends, which are said free ends, are movable about said pivotal support, towards and away from each other.

49. (Previously Presented) An instrument according to claim 48, wherein said longitudinal guide structure comprises grooves on the sides of the legs of the first arm which face each other, and the pivot element has lateral edges which engage said grooves.

50. (Previously Presented) An instrument according to claim 49, wherein the lower part which is mounted on the free end of said first arm has grooves that are aligned with the grooves on the legs, whereby the lateral edges of the pivot element are movable along the grooves of the legs and then into the grooves of the lower part.

51. (Previously Presented) An instrument according to claim 50, including a pusher, also mounted in the grooves of the legs, a rod connected to the pusher, the pusher being movable along the grooves to push the pivot element therealong and into the lower part.

52. (Previously Presented) An instrument according to claim 50, including a spreader element engaging the two legs of the first arm and the single rod of the second arm and positioned and shaped such that when moved along the arms toward the free ends, it spreads the arms apart from each other.

53. (Previously Presented) An instrument according to claim 48, wherein, in the closest proximity of the upper and lower parts to each other, when mounted on the free ends of the arms, the second arm moves between the two legs of the first arm.

54. (Previously Presented) An instrument for inserting a three piece intervertebral implant into an intervertebral space, comprising:

a first arm which can engage a lower part of the implant and insert it into the intervertebral space,

a second arm operatively connected to the first arm and operable in coordination with the first arm to engage an upper part of the implant to insert it into the intervertebral space essentially concurrently with insertion of the lower part, and

guide structures operatively connected to the first and second arms for spreading apart the inserted upper and lower parts and inserting a third part between them.

55. (Previously Presented) An instrument according to claim 54, said guide structures including a pusher for pushing the pivot element along the first arm, and a spreader for spreading the arms apart.

56. (Previously Presented) An instrument according to claim 55, wherein the first arm comprises a pair of legs with longitudinal grooves facing each other, both the pivot element and the pusher being mounted in said grooves to move along the arms, and wherein the spreader is mounted on said arms to spread the arms apart as it moves therealong.

57. (Previously Presented) An instrument according to claim 56, wherein the lower part includes grooves aligned with the grooves of the legs, whereby the pusher can push the pivot element along the legs of the first arm and directly into the lower part.

58. (Previously Presented) An instrument according to claim 56, wherein the upper and lower parts nest, one within the other, in their closest proximity, and the second arm comprises a single rod located centrally between the legs of the first arm, and said single rod of the second arm moves in between the legs of the first arm to accommodate the nested position of the upper and lower parts.

59. (Previously Presented) An instrument for inserting a three piece intervertebral implant of the type having upper and lower parts which engage adjacent vertebrae and a third part located between the upper and lower parts,

the instrument having an arm structure which includes a pair of parallel legs which engage the lower part at an end thereof, opposed grooves facing each other along the parallel legs and opposed grooves facing each other on the lower part and which are aligned with the grooves in the parallel legs,

the third part having lateral edges which engage the grooves of both the parallel legs and the lower part,

whereby the third part is movable along the grooves in the parallel legs and directly into the grooves in the lower part.

60. (Previously Presented) An instrument according to claim 59, wherein the arm structure includes a first arm which comprises the parallel legs and a second arm which at its free end engages the upper part, the first and second arms being pivotally supported and spaced apart from each other at their ends remote from their implant engaging free ends.

61. (Previously Presented) An instrument according to claim 60, including a spreading element movable along the first and second arms for spreading the first and second arms apart to provide a spacing between the upper and lower parts for insertion of the third part therebetween.

62. (Previously Presented) An instrument according to claim 59, wherein the lower part has a recess formed by two side walls, an end wall and an open side opposite to the end wall, its grooves being formed in the side walls, whereby the pivot element enters the lower part through the open side.

63. (Previously Presented) An instrument for inserting a three piece intervertebral implant of the type having upper and lower parts engaging adjacent vertebrae and a third part located between the upper and lower parts,

a working space defined by parallel planes which pass through opposed outer surfaces of the upper and lower parts and are parallel to the direction of movement of the instruments when inserting said parts,

upper and lower arms engaging respectively at their free ends, the upper and lower parts,

an elongated spreader element for spreading the upper and lower parts apart, while in the intervertebral space, to allow insertion of the third part,

an elongated pusher element for moving the third part along the arms and into place in the intervertebral space between the spaced apart upper and lower parts, and

both of said arms, said spreader element and said pusher element being located and operable completely within said working space.

64. (Previously Presented) An instrument according to claim 63, said lower arm comprising a pair of parallel legs, the space between said parallel legs being less than the distance between the said parallel planes, and the upper arm comprising a single rod located centrally between the two legs of the lower arm.

65. (Previously Presented) An instrument according to claim 64, the pusher element comprising an elongated rod located and operable between the parallel legs for pushing the third part along the parallel legs and into the lower part.

66. (Previously Presented) An instrument according to claim 65, the spreader element being located in a plane between the parallel legs and movable along the parallel legs of the lower arm and engaged on its top by the single rod of the upper arm.

67. (Previously Presented) An instrument according to claim 64, the third part being a pivot element located between the parallel legs and movable along facing grooves located in the parallel legs under the action of the pusher element.

68. (Currently Amended) An instrument for inserting an intervertebral implant into an intervertebral space between adjacent vertebrae, comprising:

a working space defined by parallel planes which pass through opposed outer surfaces of the implant and are parallel to the direction of insertion movement of the implant into the intervertebral space,

an elongated structure comprising ~~three~~ a plurality of elongated arms for holding and inserting the implant, and

wherein said elongated structure is located and operable completely within said working space.

69. (Previously Presented) An instrument according to claim 68, wherein the implant includes a first part which engages one vertebrae of the intervertebral space and a second part which engages the other vertebrae of the intervertebral space, the two parts being moveable relative to each other within the intervertebral space.

70. (Previously Presented) An instrument according to claim 69, wherein the three arms include separate arms for engaging each of the two parts, both of which arms are located and operable completely within the working space.

71. (Previously Presented) An instrument according to claim 70, wherein the implant includes a third part located, in use, between the first and second parts.

72. (Previously Presented) An instrument according to claim 70, wherein the three arms include a further arm for engaging the third part, said third arm also being moveable and operable completely within said working space.

73. (Previously Presented) An instrument according to claim 70, wherein the first said two arms are mounted for pivotable movement relative to each other about an end remote from the ends which engage the first and second parts.

74. (Previously Presented) An instrument according to claim 70, the implant including a third part located between the first and second parts, and wherein the third arm includes a third arm moveable along the first two said arms for engaging the third part, all three arms being located and operable completely within said working space.

75. (Previously Presented) An instrument for inserting a three piece intervertebral implant of the type having upper and lower parts which engage adjacent vertebrae and a third part located between the upper and lower parts,

said instrument including an upper arm for holding the upper part at its free end and a lower arm for holding the lower part at its free end,

the upper and lower parts having complementary facing structures which allows them to come to a nested position in which their combined height is less than the total height of the upper and lower parts, taken separately, and

the upper arm being movable vertically in relation to the lower arm such that they overlap, taken vertically, to allow said nesting of the upper and lower parts.

76. (Previously Presented) An instrument according to claim 75, the lower arm comprising a pair of parallel legs, the upper arm comprising a single rod located and movable centrally between the legs of the lower arm, and wherein when the upper and lower arms overlap, the upper arm is located between the legs of the lower arm.

77. (Previously Presented) An instrument according to claim 76, including a spreader for spreading the upper and lower arms apart to move the upper and lower parts from their nested position towards a spaced apart position, and including a longitudinal guide structure for receiving a third part and moving it along the parallel legs and into the space between the separated upper and lower parts.

78. (Currently Amended) An instrument for inserting ~~a three piece~~ an intervertebral implant of the type having upper and lower parts which engage adjacent vertebrae ~~and a third part located between the upper and lower parts~~,

an upper arm for holding the upper part and a lower arm for holding the lower part,

the lower arm comprising a pair of elongated legs which engage the lower part at the free end thereof,

and wherein at least one of the legs is rotatable about its axis to move its free end between a locked position whereat it locks the lower part thereon and an unlocked position whereat the lower part is free to be removed from said free end.

79. (Previously Presented) An instrument according to claim 78, wherein both legs have pins at the ends thereof which each engage a bore in the lower part, the pin on said at least one rotatable leg having a protrusion extending perpendicular to the pin, and wherein in one rotational position of the rotatable leg, the protrusion engages an opening in the lower part to retain the lower part thereon, and in the other rotatable position of the leg, the protrusion releases the lower part.

80. (Previously Presented) An instrument according to claim 79, wherein both of said legs of the lower arm are rotatable and have pins, each with a protrusion at its free end and a corresponding opening in the lower part, and wherein the upper arm includes pins at its free end for engaging the upper part.

81. (Previously Presented) An instrument for inserting a three piece intervertebral implant of the type having upper and lower parts which engage adjacent vertebrae and a third part located between the upper and lower parts,

an upper arm for holding the upper part at its free end and a lower arm for holding the lower part at its free end,

a mounting structure for connecting the upper and lower arms together at their other ends remote from their free ends, such that the other ends are spaced apart vertically from each other and pivotally supported to allow their free ends to pivot towards and away from each other, and

a spreader element engaging and movable along the upper and lower arms in one direction to spread them apart to thereby spread apart the upper and lower parts,

and in the other direction to allow the upper and lower arms to come together and thereby allow the upper and lower parts to move towards each other.

82. (Previously Presented) An instrument according to claim 81, the lower arm comprising a pair of parallel legs, the upper part comprising a single rod located centrally between the legs of the lower arm, said mounting structure comprising a bottom plate to which the parallel legs are connected and an upright mounting block, and the upper arm being pivotally connected to said mounting block at a pivot axis spaced above the bottom plate.

83. (Previously Presented) An instrument according to claim 82, said spreader element including a toothed rack, a toothed gear wheel pivotally mounted on the mounting block and engaging the rack of the spreader element, whereby turning of the gear wheel moves the spreader element along the arms.

84. (Previously Presented) An instrument according to claim 82, including a pusher mounted on the arms to move the third part along the arms for insertion between the upper and lower parts as the spreader element spreads the arms and hence also the upper and lower parts.

85. (Previously Presented) An instrument for inserting a three piece intervertebral implant of the type having upper and lower parts which engage adjacent vertebrae and a third part located between the upper and lower parts,

an upper arm having an upper part at a free end thereof,

a lower arm having a lower part at a free end thereof,

the lower arm comprising a pair of parallel legs which engage the lower part at their free ends, and define between them a receiving chamber,

the legs on the sides facing the receiving chamber including a structure which engages the lateral edges of a third part for movement of the third part along said legs,

a pusher element mounted on the legs for pushing the third part therealong, and

a spreader element mounted on and slidable along the upper and lower arms to spread them apart.

86. (Previously Presented) An instrument according to claim 85, the upper and lower arms having pins at their outer ends which engage bores in the upper and lower parts, respectively, to retain the upper and lower parts on the arms.

87. (Previously Presented) An instrument according to claim 86, the structure which engages the lateral edges of the third part comprising grooves which extend longitudinally along said legs, and the third part is a pivot element having lateral edges which engage said grooves, and wherein the pushing element also engages the grooves and is operable to move the pivot element along the arms and into a space between spread apart upper and lower parts.

88. (Previously Presented) An instrument according to claim 87, wherein the lower part has parallel grooves in the side walls thereof which are aligned with the grooves in the legs, whereby a pivot element can move directly from the grooves in the legs into the grooves in the lower part.

89. (Previously Presented) A method for inserting a three piece intervertebral implant into an intervertebral space, comprising the steps of:

assembling upper and lower parts of the intervertebral implant together on an elongated inserting instrument and inserting them into an intervertebral space such that the upper surface of the upper part and the lower surface of the lower part engage adjacent vertebrae,

after the upper and lower parts are located in the intervertebral space, causing the elongated inserting instrument to spread them apart, and

with the upper and lower parts spread apart, moving a longitudinal guide along the elongated inserting instrument to move a third part into the space between the upper and lower parts.

90. (Previously Presented) A method according to claim 89, wherein the step of moving the longitudinal guide includes placing the third part into the grooves in the elongated insertion instrument, and moving a pusher along those same grooves to move the third part out of the elongated insertion instrument and into the intervertebral space between the spread apart upper and lower parts.

91. (Previously Presented) A method according to claim 90, wherein the step of causing the elongated insertion instrument to spread apart the upper and lower parts includes moving a spreader along the elongated insertion instrument to spread apart the upper and lower arms of the elongated insertion instrument, the upper arm holding the upper part and the lower arm holding the lower part.

92. (Previously Presented) A method for inserting a three piece intervertebral implant into an intervertebral space, comprising the steps of:

assembling upper and lower parts of the intervertebral implant on an elongated inserting instrument and inserting them into an intervertebral space, wherein the lower part has a recess formed by a base, three raised sides and one open side,

inserting the upper and lower parts into the intervertebral space,

using the elongated inserting instrument, spreading the upper and lower parts apart by a distance slightly greater than the clearance between the lowermost surface of the upper part and the base of the lower part, and

moving the third part onto the base of the lower part through its open side, and

moving the upper part against the top of the third part.

93. (Previously Presented) A method according to claim 92, wherein the elongated insertion instrument has a lower arm comprising a pair of parallel legs with grooves on facing sides thereof, the lower part being held at the free ends of the parallel legs and the lower part having grooves in two parallel raised side walls adjacent the open side, which grooves are aligned with the grooves of the parallel legs, and wherein

the step of moving the third part into the base of the lower part comprises moving the third part along the grooves of the parallel legs and into the grooves of the lower part.

94. (Previously Presented) A method according to claim 93, wherein the elongated insertion instrument also includes an upper arm which engages the upper part at a free end thereof and the step of spreading the upper and lower parts apart including moving a spreader along the elongated insertion instrument towards the free ends thereof between the upper and lower arms to spread them apart.

95. (Previously Presented) A method according to claim 94, wherein the step of moving the upper part against the top of the third part includes moving the spreader in a direction away from the free ends.

E14

96. (New) A medical device installation tool, comprising:

a pair of opposed levers, each having a proximal, handle portion and a distal portion;

a fulcrum disposed between the pair of levers;

a pusher block positioned between the pair of levers and slidably moveable between an initial location distal of the fulcrum and a final location adjacent a distal end of the levers; and

a pusher rod having a distal end connected to the pusher block and a proximal, handle end.

97. (New) A medical device installation tool according to claim 96, wherein the fulcrum comprises a pivot structure at the proximal, handle portion of the pair of opposed levers, permitting the distal portion of the opposed levers to move towards and away from each other.

98. (New) A medical device installation tool according to claim 96, wherein one of the opposed levers has a longitudinal guide structure for receiving the pusher block.

99. (New) A medical device installation tool according to claim 96, wherein one of the opposed levers comprises a pair of legs having grooves for receiving the pusher block.

100. (New) A medical device installation tool according to claim 99, including, between the legs and distal of the fulcrum an insertion region for insertion of the pusher block.

101. (New) A medical device installation tool according to claim 96, wherein the opposed levers each include at its distal end a retention device for retaining a part of an intervertebral implant.

102. (New) A medical device installation tool according to claim 96, wherein one of the levers comprises a pair of legs and the other lever comprises a single arm located in a plane midway between the two legs of the said one lever.

103. (New) A medical device installation tool according to claim 96, including a spreader element located between the two levers and positioned such that movement of the spreader element towards the distal portion moves the two levers apart about said fulcrum.

104. (New) A medical device installation tool, comprising:

a pair of opposed levers, each having a proximal, handle portion and a distal portion;

a fulcrum disposed between the pair of levers;

a pusher block positioned between the pair of levers and selectively moveable between an initial location distal of the fulcrum and a final location adjacent a distal end of the levers; and

a pusher rod having a distal end connected to the pusher block and a proximal, handle end,

the device being constructed such that the opposed levers are moveable independent of the pusher block.

105. (New) A medical device installation tool according to claim 104, wherein the fulcrum comprises a pivot structure at the proximal, handle portion of the pair of

opposed levers, permitting the distal portion of the opposed levers to move towards and away from each other.

106. (New) A medical device installation tool according to claim 104, wherein one of the opposed levers comprises a pair of legs having grooves for receiving the pusher block.

107. (New) A medical device installation tool according to claim 104, wherein one of the levers comprises a pair of legs and the other lever comprises a single arm located in a plane midway between the two legs of the said one lever.

108. (New) A medical device installation tool according to claim 104, including a spreader element located between the two levers and positioned such that movement of the spreader element towards the distal portion moves the two levers apart about said fulcrum.

109. (New) A medical device installation tool, comprising:

a pair of separate, opposed levers, each having a proximal, handle portion and a distal portion;

a fulcrum disposed between the pair of levers;

a pusher block positioned between the pair of levers and selectively moveable between an initial location distal of the fulcrum and a final location adjacent a distal end of the levers; and

a pusher rod having a distal end connected to the pusher block and a proximal, handle end.

110. (New) A medical device installation tool according to claim 109, wherein the fulcrum comprises a pivot structure at the proximal, handle portion of the pair of opposed levers, permitting the distal portion of the opposed levers to move towards and away from each other.

111. (New) A medical device installation tool according to claim 109, wherein one of the levers comprises a pair of legs and the other lever comprises a single arm located in a plane midway between the two legs of the said one lever.

112. (New) A medical device installation tool according to claim 109, including a spreader element located between the two levers and positioned such that movement of the spreader element towards the distal portion moves the two levers apart about said fulcrum.

113. (New) A medical installation instrument comprising:

first and second arms operatively engaged with each other to turn about a first location such that the ends thereof distal from the said location are movable towards and away from each other,

a spreader element located between the arms and movable therealong toward the distal end to spread the arms apart, and

a pusher element for moving an object located between the arms toward the distal end of the arms.

114. (New) A medical installation instrument according to claim 113, wherein one of the arms comprises a pair of parallel legs, and the other arm is located in a plane midway between the pair of legs.

115. (New) A medical installation instrument according to claim 113, wherein the spreader element and the pusher element are movable along the arms independently of each other.

116. (New) A medical installation instrument according to claim 115, wherein the pusher element moves beneath the spreader element.

117. (New) A medical installation instrument according to claim 113, wherein one of the arms comprises a pair of legs which includes a guide structure for the pusher element.

118. (New) A medical installation instrument according to claim 117, wherein the spreader rides along the pair of legs above the pusher element.